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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Eiichi Kameda

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WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER

BLACKWELL, GWENDOLYN ANNETTE

ART UNIT

PAPER NUMBER

1775

MAIL DATE

DELIVERY MODE

08/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/519,490

Applicant(s)

KAMEDA, EIICHI

Examiner

Gwendolyn Blackwell

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-20 and 22-24 is/are rejected.
- 7) ☒ Claim(s) 21 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Examiner's Comment

1. In view of Applicant's claim amendments set forth in the response dated October 2, 2006, the interpretation of claim 1 under 35 USC 112, 6th paragraph, means plus function, is no longer applicable as Applicant has amended the claim to provide sufficient structure for the means for preventing an inflection point. Thus, if the phrase "means for" or "step for" is modified by sufficient structure, material or acts for achieving the specified function, the USPTO will not apply 35 U.S.C. 112, sixth paragraph, until such modifying language is deleted from the claim limitation. *MPEP 2181*.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

Art Unit: 1775

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 18-20 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over by United States Patent no. 5,644,124, Hamada et al.

Regarding claim 18

Hamada et al disclose a multilayered filter (ray cut filter) formed on a light receiving substrate (transparent plate) comprised of alternating layers of high and low refractive index materials, (column 3, lines 4-57). Figure 3 demonstrates that the optical thickness of the high and low refractive index layer increases from the substrate and up through the multilayered stack, (column 7, lines 43-65), wherein the optical film thickness of the low and high refractive index thin films can be the same (Figure 3, layers 28/29), yet have a different thickness from each layer, (layer 10/11 vs. layer 12/13), (Figure 3). Between the substrate and the multilayer stack, a matching layer C (adjustment layer) is formed, (Figure 3). Also note, that in Figure 3, low refractive layers 2 and 30 have an optical thickness of $\lambda/8$ (adjustment layers) which is different from those of the other layers located between layers 2 and 30. More than one matching layer can be used in addition to the uppermost layer may also be a matching layer, (column 8, lines 27-41). Hamada et al does not specifically disclose the placement of the matching layer as claimed by Applicant.

As Hamada et al disclose that more than one matching layer can be used in addition to the inclusion of a matching layer as the uppermost film, it would have been obvious to one skilled in the art at the time of invention to modify the placement of the matching layers through routine experimentation in order to obtain the desired optical properties depending upon the

Art Unit: 1775

substrate used, (column 8, lines 36-41). As Hamada teaches the layer structure as claimed by Applicant, it would be expected that the Hamada layer structure would act as a ray cut filter., claim 18.

Regarding claims 19-20 and 22-24

Figure 3 also demonstrates at least first (layers 13/14), second (layers 26/27), and third layers (layers 28/29), which increase in thickness as the distance from the substrate is increased. The thin film layer thicknesses of the first and second layers are substantially the same as well as the thin film layer thicknesses of the first and third layers, claims 19-20 and 22-24.

Allowable Subject Matter

5. Claims 21 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The closest prior art of record while generally teaching the layer structure and thickness limitations does not teach or suggest that the ray cut filter in combination with having a filter on one side of the substrate in the wavelength band from the visible region to the infrared region with an additional filter on the other side of the substrate going from the UV region to the visible region.

Response to Arguments

6. Applicant's arguments filed May 29, 2007 have been fully considered but they are not persuasive.

7. Applicant contends (1) that the structure of the presently claimed invention is not taught or suggested by Hamada (US 5,644,124) with regards to the placement of the matching layer C (adjustment layer).

8. With regards to contention (1), Hamada discloses that between the substrate and the multilayer stack, a matching layer C (adjustment layer) is formed, (Figure 3). Also note, that in Figure 3, low refractive layers 2 and 30 have an optical thickness of $\lambda/8$ (adjustment layers) which is different from those of the other layers located between layers 2 and 30. More than one matching layer can be used in addition to the uppermost layer also being a matching layer, (column 8, lines 27-41). As Hamada et al disclose that more than one matching layer can be used in addition to the inclusion of a matching layer as the uppermost film, it would have been obvious to one skilled in the art at the time of invention to modify the placement of the matching layers through routine experimentation in order to obtain the desired optical properties depending upon the substrate used, (column 8, lines 36-41). As there can be more than one matching layer as set forth in Hamada's disclosure, the limitations of Applicant's claim 18 are met. For the reasons set forth above, Hamada will be retained as pertinent prior art.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn Blackwell whose telephone number is (571) 272-1533. The examiner can normally be reached on Monday - Thursday; 6:30 am - 5:00 pm.

Art Unit: 1775

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Gwendolyn Blackwell
Examiner
Art Unit 1775

gab